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# AGRICULTURE AND FISHERIES DIVISION



## Nature and scope of activities

The Agriculture and Fisheries Division has diverse responsibilities across NSW primary industries, which have a total gross production value of approximately \$8 billion per year. Among our key responsibilities are delivering extension and training services, building industry capacity and devising production solutions for the agriculture, private forestry and aquaculture industries. The division also manages the sustainable commercial and recreational use of NSW fisheries' resources, the protection of the aquatic environment and animal welfare.

The division comprises six branches:

- Extensive Industries Development
- Intensive Industries Development
- Fisheries, Conservation and Aquaculture
- Wild Harvest Fisheries
- Regional Relations and Education
- Animal Welfare.

## Major outcomes achieved

### Primary industries use innovative technologies and practices

#### Conservation farming (State Plan: P7, E1, E4)

NSW DPI is working to improve implementation of conservation farming techniques such as reduced tillage, direct drilling and zero-tillage in central western NSW. Adoption of these techniques, although expensive has wide-ranging benefits, including moisture retention, improved soil health and more efficient use of farm labour.

To promote conservation farming, NSW DPI developed a workshop to give producers the information they need to make the changeover. Workshop participation was linked to incentive funding from the Central West Catchment Management Authority for machinery conversion and soil testing to accelerate uptake of the technology. To date more than 90 producers have attended training workshops, which we developed in close liaison with project managers from the Central West Conservation Farming Association Inc.

#### Training (State Plan: P7, E1, E4)

In its second year, PROfarm continued to build a reputation for excellence in training delivery. Strong links are now in place with external stakeholders including most NSW catchment management authorities, major industry research and development corporations, and relevant cooperative research centres. Key features of PROfarm, including the use of course champions and centralised course coordination, enabled NSW DPI to meet very high demand for StockPlan® and Paddock Plants courses. Overall attendance at PROfarm activities was up by over 30 per cent on 2005-06 while the PROfarm website (www.profarm.com.au) recorded over 100 000 hits.

NSW DPI currently offers training under PROfarm to farmers across much of NSW under contracts with catchment management authorities. In 2006-07 over 1 550 farmers extended their knowledge of soil and pasture management through training linked to the healthy soil and sustainable grazing initiatives.

#### Winegrape Futures (State Plan: P1, P6, P7, E1, E4)

NSW DPI viticulture extension team provide a unique extension framework for the Winegrape Futures Program, a collaborative initiative with Charles Sturt University (Wagga Wagga) and the NSW wine industry. The extension team has links to each of the five research themes and out to the NSW wine industry ensuring that the industry is exposed to the latest research outcomes as they occur. The process enables the industry to be kept informed on best management practices for: plant protection, grape and wine quality, vine improvement, quality assurance, crop forecasting, vineyard establishment and expansion, pest and diseases and irrigation, as well as consumer preferences.

### Communities and primary industries are prepared for managing risks

#### Explaining the impacts of climate change (State Plan: P7, E4)

NSW DPI has a clear role in raising landholders' awareness on climate change so that they can both sustainably manage natural resources and make informed business decisions. In line with the goals set in the NSW Government's Greenhouse Plan, NSW DPI held seven major regional forums to promote awareness and adaptation to climate change impacts. The successful forums, which attracted more than 780 attendees, will be rolled out across the state in 2007-08.

Responding to producer demand for tools to understand the local impacts of climate change, we also developed climate indices for key industries in six catchment management areas. The dairy, beef, grain and wine grape industries were among those analysed.

#### Changing conditions for the wine grape and citrus industries (State Plan: P7, E1, E4)

Developed as an initiative to help growers reduce production yet keep vines alive, NSW DPI's Steps to Recovery program retained its relevance when the poor 2007 vintage wiped out the wine glut. This was because the techniques that the program promoted for reduced production were also applicable during the 2006-07 drought when water availability was limited.

In other initiatives, the department released the brochures Managing Citrus with Less Water and Irrigating Grapevines with Limited Water Supplies and held water management workshops for the wine grape and citrus industries.

### Industries see NSW as an attractive State in which to invest

#### A sustainable oyster industry (State Plan: P1, P6, E4)

The NSW Oyster Industry Sustainable Aquaculture Strategy was gazetted in December 2006. By identifying and securing priority oyster aquaculture areas, the plan aims to ensure that the environmental conditions required for oyster cultivation in these areas are maintained.

The plan also:

- details oyster industry best practice
- establishes simplified industry planning approvals under a state environmental planning policy
- sets water quality objectives for all oyster growing areas. These link to planning legislation to ensure that consent authorities consider the oyster industry when processing development applications.

## Primary industries have appropriate access to natural resources

### Commercial fisheries share management

(State Plan: S8, P6, E4)

February 2007 marked the start of significant commercial fisheries management reforms, including:

- implementation of new share management plans for the estuary general, estuary prawn trawl, ocean hauling, ocean trawl and ocean trap and line fisheries
- introduction of new plastic card commercial fishing licences, fishing boat licences and fishing business cards
- alignment of licence periods to the financial year
- introduction of new flexible trading and nomination rules.

In addition to the above reforms, fishery management strategies were finalised for all NSW commercial fisheries following ministerial approval of strategies covering the commercial ocean trawl, ocean trap and line, lobster and abalone fisheries. This completes a major program to promote long-term sustainability, meet state and federal legal requirements and fulfill international obligations relating to ecosystem-based fisheries management.

### Gaden hatchery centre re-development (State Plan: E8, S8)

A recent economic survey of recreational fishing in the Snowy Mountains showed that the trout fishery is worth over \$70 million to the regions economy and supports over 700 jobs. The Gaden Trout Hatchery at Jindabyne produces millions of trout and salmon each year for stocking into public waterways. This provides high quality angling opportunities ranging from family fishing on impoundments to world class fly fishing in high country streams. The redevelopment of the hatchery centre, partly funded by the Recreational Fishing Trusts, will boost the production of fingerlings of a larger size which will improve the return of stocking to anglers. All fish stockings in NSW occur under strict environmental guidelines are in approved waters to conserve our unique biodiversity.

### Managing land use conflicts (State Plan: E4)

In conjunction with Southern Cross University, NSW DPI completed a major study titled Managing land use conflict and the interface between development and key natural resources. As a result, we integrated relevant policies into a single document. Regional awareness was also raised during the study of the benefits of avoiding land use conflicts.

## Primary industries operations reflect principles of ecologically sustainable development

### Farmer Targets for Change (State Plan: E4)

Co-developed by NSW DPI and the Mid Coast Dairy Advancement Group, the Farmer Targets for Change (FTC) initiative expanded in 2006-07. At the end of the year, there were 10 FTC groups across the Hunter Valley, and mid and far

north coast of NSW, with the Hunter Valley establishing groups for both dairy farmers and beef producers. Under the initiative producers who develop an action plan for natural resource management are eligible for financial incentives to implement on-farm projects. These will deliver environmental benefits such as improved water quality, rehabilitation of riparian zones and the return of non-productive and environmentally sensitive land to native vegetation. The FTC initiative is supported by funding from Dairy Australia through NSW DPI's Dairy pathways project and will continue for another two years.

### Bee Industry Code of Practice (State Plan: E4)

NSW DPI led the development of the National Code of Practice for Beekeeping in the Australian Environment under the auspices of the Australian Honey Bee Industry Council. The code – to be finalised by September 2007 – will form the basis for an environmental management system for the industry and respond to conservation concerns about the impact of honey bees (an introduced insect) on the Australian environment.

### Beyond Salinity Solutions (State Plan: P7, E4)

This NSW DPI project is setting a statewide framework for accredited natural resource management training. Its aim is to support catchment management authorities' efforts to improve the adoption of on-ground action to enhance the economic, social and environmental quality of catchments. A total of 520 participants have to date completed accredited training, among them authority staff, private agricultural advisers and local government officers. The successful implementation of Beyond Salinity Solutions and the relationships built during the project have also had flow-on benefits for further training on drought and climate change management.



Lachlan Rowling NSW DPI Salinity Advisory Officer and Manilla farmer Peter Simpson inspecting the successful establishment of salt tolerant summer grasses like Rhodes grass on salt site near Manilla.

### Salinity guides (State Plan: E4)

NSW DPI published five new Salinity Glove Box Guides for the major NSW catchment areas following the popularity of the initial guide for the Murrumbidgee and Murray catchments, which was produced as a support tool for training and staff

use in the field. The new guides cover the Hunter, Lachlan and Macquarie, Namoi, Border Rivers, and Gwydir catchments. South Australia and Tasmania have since taken up the glove box guide concept, with NSW DPI lending assistance in developing region-specific publications.

#### Marine parks and aquatic reserves (State Plan: E4)

Following the completion of zoning plans for the Port Stephens-Great Lakes and the Batemans marine parks, NSW DPI oversaw the buyout of commercial fishers affected by the reduction under the plans in commercial fishing areas. Our supervision of the \$20.7 million buyout was on behalf of the Marine Parks Authority.

In administrative changes following the NSW election, responsibility for NSW marine parks and aquatic reserves transferred to the Department of Environment and Climate Change. The Minister for Primary Industries and NSW DPI retain a role in marine parks through the Minister's responsibility for the *Marine Parks Act 1997* and Director-General's membership of the Marine Parks Authority.

#### Threatened fish species (State Plan: E4)

NSW DPI finalised the recovery plan for the threatened trout cod (*Maccullochella macquariensis*). We publicly exhibited the draft recovery plan for the river snail (*Notopala sublineata*), the draft threat abatement plan for removal of large woody debris, and the species impact statement on impoundment fishing for silver perch (*Bidyanus bidyanus*). We also implemented a formal monitoring program for all freshwater threatened species which aims to survey all known populations on a rolling three-year basis. See Appendix 25 for more information.

#### Aquatic habitat management (State Plan: E4)

Externally funded projects opened up an additional 345 kilometres of fish passage across the state while an audit of over 522 barriers to fish passage was completed for the Hunter/Central Rivers, Hawkesbury-Nepean, Sydney Metro and Southern Rivers catchment management areas. The audit allowed NSW DPI to prioritise work to improve fish passage actions across numerous large coastal rivers and catchments.

Fish habitat was successfully re-established in long reaches of the Upper Castlereagh, Barwon and Murray rivers.

2006-07 also saw the launch of the innovative Fish Friendly Farms program which NSW DPI developed to actively engage the agricultural community in the management and rehabilitation of native fish habitat.

#### New recreational fishing guidelines released

(State Plan: S8, E4, E8)

The well used Freshwater and Saltwater Recreational Fishing Guides have been revamped to include the latest information on fishing rules, safety advice, catch and release techniques, fishing tips, projects funded by the Recreational Fishing Trusts, conservation initiatives and other information on our aquatic

environment. The guidelines also now have high quality pictures of all popular fish species caught by anglers. 300 000 of the free guides are being distributed throughout NSW by fishing tackle stores, Fishcare volunteers and fisheries officers.

#### Risks posed by pests, diseases and chemicals are excluded, eradicated or effectively managed

##### Oyster industry water quality initiatives (State Plan: E4)

NSW DPI is working with the NSW oyster industry, local government and other state agencies to improve estuarine water quality in oyster growing areas. Projects over the reporting period included:

- establishing a working group to identify strategies for diffuse source water quality management
- partnering with the Hawkesbury Nepean and Hunter/Central Rivers catchments under the Tide to Table program to examine rehabilitation projects
- developing an interagency protocol to respond to emerging water quality issues in oyster harvest zones
- responding collaboratively to water quality issues in the Bellingen River and Tilligerry Creek that led to the closure of oyster harvest in these waterways.

##### National Livestock Identification System (State Plan: P6, E4)

2006-07 marked the final phase of implementation of the National Livestock Identification System for cattle by NSW DPI. Statistics show the system's reach – over 55 000 NSW properties and over 9.1 million cattle registered and almost six million subsidised electronic ear tags bought by producers. The performance of NSW in the national cattle tracing exercise, Cow Catcher 2, was the strongest indicator of the system's success while an independent survey showed overall industry acceptance.

Implementation was a collaborative effort between NSW DPI's Agriculture and Fisheries and Biosecurity, Compliance and Mine Safety divisions, which worked closely with the rural lands protection boards. The case study in the chapter on the latter division has more details.



Steve Exton, NSW DPI Industry Leader Beef Development, checks NLIS tagged cattle at Wagga Wagga saleyards.

### Small scale pork producers (State Plan: S8, E4)

NSW DPI factored small scale pork producers into biosecurity calculations in 2006-07. Working with rural lands protection boards, we identified the need to locate these producers, provide them with information on biosecurity risks, and institute a traceable pig movement system. To these ends, we prepared a series of brochures for distribution at events such as field days. The brochures cover swill feeding; animal welfare issues; the legal obligations for keeping small numbers of livestock near urban areas; saleyard animal movement requirements; and animal identification.

### Phylloxera (State Plan: S8, E4)

Phylloxera is a significant quarantine pest for grape growers. Infestations of this deadly small root dwelling insect are very difficult to treat and control usually consists of preventing the movement of grape material from infested areas. With the exception of two small areas, NSW has been declared a phylloxera-free zone. To maintain this status, NSW DPI conducted a state-wide extension program to ensure that producers in all grape growing areas are familiar with new legislative requirements for importing grape material and have suitable quarantine procedures in place to reduce the risk of pest infestation and spread.

### Orchard Plant Protection Guide (State Plan: S8, P6)

Now in its 17th edition, the popular Orchard Plant protection Guide continues to provide deciduous fruit growers with latest technology in orchard management along with pest and disease control strategies including the use of integrated pest and disease management systems and biological controls. A feature of the latest edition was a section on climate change and fruit production.

### Dioxin advisory campaign (State Plan: S8)

Following identification of elevated dioxin levels in Port Jackson last year, NSW DPI developed and implemented a comprehensive program to give local anglers updated dietary advice about eating their catch. The program included the publication of multi-lingual material, signage at key locations around the port, written advice to all anglers holding one and three-year licences, and a regular on-water communication with anglers via Fishcare Volunteers and NSW DPI staff. We also used special purpose vessels for on-water education.

## Informed debate on primary industries issues involving extensive and effective consultation

### Organic Industry Advisory Council (State Plan: P6)

The NSW Government continued to support the development of the organic food and fibre industries in 2006-07 through the establishment the Organic Ministerial Advisory Council. The council, which includes nominated representatives from a broad spectrum of the industry, will provide advice directly to the Minister for Primary Industries.

## Service delivery aligned with stakeholder priorities

### Aquaculture administration database (State Plan: S8)

NSW DPI enhanced the aquaculture administration database to meet the operational and legislative requirements of managing the NSW aquaculture industry. The database now:

- facilitates a holistic approach to managing individual business
- enables regular audits of business details such as lease security, tenancy and expiry
- frees NSW DPI to dedicate more resources to case managing businesses and transactions.

### Agricultural education (State Plan: P7, E4)

The Murrumbidgee Rural Studies Centre and the CB Alexander Campus expanded training and extended the geographical reach of training programs this year. Both also worked closely with catchment management authorities on course delivery.

In other educational developments, the establishment of the AgCredited program in association with the Australian Institute of Agricultural Science and Technology will allow professionals working in agriculture and natural resource management to gain national accreditation and give farmers added confidence when engaging consultants.

The CB Alexander Campus' residential program remained at capacity level with 128 full-time students. As in previous years, college graduates found ready employment in rural industries.



Total students completing Certificate IV in Agriculture

### Animal welfare legislation updates (State Plan: P3)

Amendments to the Prevention of Cruelty to Animals Regulation 2006 combined previous regulations in an improved format that streamlined regulatory activities, clarified application of the *Prevention of Cruelty to Animals Act 1979*, and boosted deterrence. The Act was also amended to confirm the prohibition of both surgical and non-surgical tail docking for cosmetic purposes. The Exhibited Animals Protection Regulation 2005 was amended to introduce new standards for exhibiting Australian mammals and allow the issue of penalty notices for certain offences.

## Exhibited animals

The opening of two multi-million dollar animal exhibition facilities brought several years work by NSW DPI staff to successful completion. One of the facilities was Taronga Zoo's new Asian elephant exhibit, which had been the subject of intense scrutiny by animal welfare groups. By requiring a series of welfare changes, NSW DPI enabled the zoo to import an additional bull elephant, meet Australian import conditions, and comply with the national zoo elephant guidelines. The second facility was Sydney Wildlife World, which opened following controversy over its location and novel design. Our role in this instance was to require various welfare improvements and environmental changes to satisfy community concerns.

## Ethics

In 2006-07 NSW DPI hosted a seminar for over 100 members of NSW animal ethics committees. The meeting reflected on changes in the conduct of animal research since the introduction of animal research legislation 20 years ago as outlined in the case study in this chapter.

## Significant issues

### Drought management (State Plan: S8, P6)

Drought management was again a significant issue for the division. District staff conducted drought management workshops across the state with a focus on the technical, risk management and social issues facing primary producers as the drought entered new phases. Over the year, technical resources were developed and adapted for different rainfall scenarios and in late 2006 the water delivery announcements in the Murray-Murrumbidgee prompted a further round of assessment and development of new advisory material on managing enterprises through likely water delivery scenarios.

### Stock containment areas (State Plan: E4)

The Murray Catchment Management Authority contracted NSW DPI to conduct groundcover assessments for 100 landholders who received incentive funding to build stock containment areas under the authority's drought support package. Stock containment areas are designed to maintain groundcover and protect pastures, waterways and soil by confining stock to smaller parcels of land for hand feeding during drought. The technical data collected in the assessments will be held by the authority to allow benchmarking against a longer-term study of the impacts of stock containment on groundcover.

### StockPlan® (State Plan: P7, S8)

In August 2006 the Minister launched StockPlan®, a decision support package developed by NSW DPI to assist livestock producers in making stock/feed management decisions. Following the launch we conducted 40 one-day workshops supported by Australian Wool Innovation and the Lachlan

and Murrumbidgee catchment management authorities. The workshops, which attracted producers from over 530 properties, allowed participants to develop tactical and strategic drought management plans. Participation also made producers eligible for incentive funds of up to \$10 000 to construct drought lots.

## Managing animal welfare

The drought has posed an ongoing risk to animal welfare. NSW DPI collaborated with other agencies on a series of policies and publications to ensure that regulatory bodies, advisory officers and others concerned with animal management are aware of the need for proper treatment of drought affected animals.

### Drought Support Workers (State Plan: S8, P6)

As they have been doing since 2003, NSW DPI's drought support workers offered drought-affected producers and their families personal support, basic information and referral to other services. This year drought support workers ran 257 farm family gatherings across NSW which attracted over 28 000 participants. And, demonstrating the versatility of the concept, they recently used the same approach in supporting farmers affected by floods in the Hunter.

### Buyout of Commonwealth commercial fishing entitlements (State Plan: E4)

The NSW Government initially welcomed the Commonwealth Government's announced buyout of Commonwealth commercial fishing entitlements, while noting the potential risk of dual- endorsed operators selling their Commonwealth entitlements and then transferring their entire operations to NSW fisheries. NSW DPI actively sought to negotiate an agreement that would benefit both governments and the fishers in each jurisdiction, without success to date.

Accordingly, we took steps to protect our fisheries by offering a fixed price for the surrender of trawl and ocean trap and line entitlements, and by upholding the nationally agreed policy to prevent licence splitting. We started the process to cancel the NSW licences held by operators that split their businesses but have no recent catch history in NSW fisheries. When the Commonwealth and NSW marine parks buyouts are complete, NSW DPI will assess the displaced fishing effort and decide on any further action necessary to protect our fisheries and the businesses which depend upon them.

## Future directions

Our priorities for the next financial year include:

- meeting the challenge of climate change to agricultural producers and commercial fishers through developing information and programs to build risk management skills and improve understanding of available options  
(State Plan: P7, E4)
- continuing to develop information and training to assist producers to respond to ongoing drought and irrigation water shortages (State Plan: S8, P7, E1, E4)
- further developing opportunities and enhancements to recreational fishing with support from the recreational trusts  
(State Plan: S8)
- delivering industry development strategies for aquaculture, wild harvest fisheries and private forestry to enhance productivity and sustainability (State Plan: P6, E1, E4)
- pursuing reform of commercial fisheries regulation with the overarching goal of reducing costs, increasing profitability and security and maintaining sustainability  
(State Plan: P1, P3, P6, E4)
- preparing further evidence-based guidelines for housing laboratory animals in scientific institutions.

## Agricultural and Fisheries Divisional performance

	Units	2004-05	2005-06	2006-07
<b>Outcomes</b>				
Crop area sown using reduced tillage technology	%	70	70	80
Producers trained in PROGRAZE improved grazing management	%	95	95	95
Satisfactory test results from pesticide surveys of NSW livestock produce	%	99.9	92.2	99.9
Aquatic species protected	no	27	29	32
Aquatic communities protected	no	39	40	40
Aquaculture production	\$m	50	48	52
<b>Output</b>				
Farmers attending PROfarm training activities	no	-	4 106	5 760
Animal Welfare Licences issued (research and exhibited animals)	no	383	378	440
Lamb traded 'over the hooks'	%	25	30	35
Native fish stocked	mill	2.4	2.3	2.3
Habitat restoration sites	no	203	280	174
Land-based fish farms	no	219	230	205
Areas of submerged lands leased	ha	3 982	4 192	3 895

## CASE STUDY



*“Over the past two decades there have been many positive changes flowing from the Act”*

## 20 years of better treatment for research animals

This year marks 20 years since the introduction of innovative legislation to protect the welfare of animals used in research and teaching – the *Animal Research Act 1985*. The first law of its type anywhere in Australia, the Act has two tenets: to protect the welfare of animals used for research and to provide a mechanism to ensure the wider community is involved in decisions on animal use.

The Act, which is based on enforced self-regulation, takes into account the rights of different sectors of the community to hold differing views and allows these views to be heard in collective decision-making.


How it works in practice is that one of the NSW animal ethics committees must assess an application for animal research and give consent before any research goes ahead. The committee then monitors the care and management of the animals used in research. Each committee must include a veterinarian, a researcher, an animal welfare representative and an independent community representative approved by the NSW DPI Director-General.

The Animal Research Review Panel created under the Act and NSW DPI's Animal Welfare Branch take care of enforcement via a system of licensing and inspections. Panel members must include four animal welfare representatives.

Over the past two decades there have been many positive changes flowing from the Act. For example, at one major university the use of animals for teaching purposes has fallen from 4.5 animals per student in the late 1970s to 0.01 animals per student now – a reduction of 99.77 percent.

Such is the strength of the Act that, as noted by Animal Research Review Panel Chairman Margaret Rose, it will help those working to enhance animal welfare to meet the challenges of the next 20 years

## CASE STUDY



*“Now the fishing industry can move forward.... share management will deliver a rejuvenated commercial fishing sector”*

## Commercial fishers welcome new management framework (State Plan: P6, E4, S8)

Greater security, enhanced flexibility and less red tape are the benefits to flow from a new management framework for five of the state's commercial fisheries.

Whereas fisheries management was previously based on an annually renewable licence, the new framework gives fishing business owners shares for a 10-year period. The shares are automatically rolled over with each new management plan. And, if a fishery is closed, business owners are eligible for compensation.

Implementation of the framework in February 2007 crowned the efforts of a dedicated NSW DPI team that drew on expertise from a number of different corporate units. Team members consulted extensively on the criteria for share eligibility, disseminating discussion papers, holding port meetings and seeking input through the industry-based management advisory committees and the Seafood Industry Advisory Council. Fairness and openness were the cornerstones throughout discussion and plan development.

Fishing business owners had the opportunity for a free assessment of their eligibility to shares if dissatisfied with the department's initial assessment. Shares were then allocated on a provisional basis, with any owner still dissatisfied able to appeal to an independent panel. The panel, which is to operate as informally as possible, will have the power to uphold a decision, vary a decision or set a decision aside in favour of a new one.

Industry had long sought a secure management framework and lauded the 2007 implementation. As the deputy chairperson of the Seafood Industry Advisory Council, commented:

*“Now the fishing industry can move forward.... share management will deliver a rejuvenated commercial fishing sector and more sustainable fish harvesting. It secures supplies of fresh NSW seafood long into the future.”*

There will also be other benefits in that business owners will be able to trade shares to gain access to new fisheries as seasonal fluctuations, family commitments and business needs dictate. The early signs are positive with a flurry of share trading underway already. The net result is a solid foundation for an important NSW regional industry